

Remarks

Claims 1-5, 7-13, 15-20, 22, and 29-33 are pending. Claims 6, 14, 21, 23-28, and 34 have been cancelled. In the office action mailed January 10, 2006, the examiner rejected claims 1-3, 5, 7-8, 23-25, 27-31, and 33-34, under 35 U.S.C. § 103(a) as being obvious over the combination of U.S. Patent No. 6,606,630 to Gunlock in view of U.S. Patent No. 6,931,440 to Blumenau et al (hereinafter Blumenau). The examiner rejected claims 4, 9-22, 26 and 32 under 35 U.S.C. § 103(a) as being obvious over the combination of Gunlock and Blumenau in view of the further combination of U.S. Patent No. 6,665,714 to Blumenau et al (hereinafter Blumenau et al).

1. All Claim Elements Must be Taught or Disclosed by the Combined References

Applicants submit that a prima facie case of obviousness has not been established and that a rejection of the pending claims on obviousness grounds is improper. A prima facie case of obviousness requires a showing that all of the claim limitations of the rejected claims are taught or suggested by the prior art. Manual of Patent Examining Procedure 2143 and 2143.03. The establishment of a prima facie case of obviousness requires that *all* the claim limitations be taught or suggested by the prior art. MPEP 2143.01 (emphasis added). “All words of a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970). Here, because all of the elements of the independent claims are not taught or suggested by the prior art combination identified by the examiner (Gunlock, Blumenau, and Blumenau et al), a prima facie case of obviousness cannot be established and the rejection of these claims should be withdrawn.

2. Independent claim 1

The examiner has rejected claim 1 as being obvious over the combination of Gunlock and Blumenau. Neither Gunlock nor Blumenau discloses each of the elements of independent claim 1. In particular, independent claim 1, as amended, recites in part:

a centralized unique hardware address table stored in a memory location separate from and accessible by each host bus adapter, wherein the unique hardware address table stores the unique hardware address of every target device that each respective host is authorized to access such that the host bus adapter for each respective host will not attempt to perform a port login with a target device unless the unique hardware address of that target device is present on the unique hardware address table as a target device that the respective host is authorized to access.

Gunlock does not teach or suggest in any manner a centralized unique hardware address table stored in a memory location separate from and accessible by each host bus adapter.

Gunlock states:

Portions of the driver 104 and topology database 132 may also reside in local memory (not shown) *of the HBA* 212, for execution by an embedded processor (not shown) of the HBA. . . The one or more levels of cache memory 204, main memory 200, local disk 206 of the node, and local memory of the HBA, together form a memory system *of the node*, which stores the driver and the network topology database.

(col.6, lines 40-47; emphasis added) It is clear from this statement in Gunlock that the topology database can be stored in the local memory of the HBA at a node. Thus, Gunlock does not disclose that the table is stored in a memory location *separate from* each host bus adapter (HBA). Additionally, a topology database in Gunlock is stored in the memory *at each node* in the network (Fig. 1). This does not fulfill the requirement that the unique hardware address table be *centralized*, as required by claim 1. Finally, Gunlock fails to teach a unique hardware address table that is accessible by *each host bus adapter* in the network, because the topology database in

Gunlock is node-based and not centralized. Therefore, Gunlock does not disclose required elements of Claim 1.

Claim 1 also requires, in part, that the unique hardware address table stores the unique hardware address of every target device that each respective host is *authorized* to access. If a host is *authorized* to access a target device, then only will the host bus adapter for the host attempt to perform a port login with the target device. Accordingly, the present invention will conserve the port login resources of a storage device by allowing, for each host, the host bus adaptor driver to perform a port login with a *selected* number of target devices rather than with all the target devices on the system. (Claim 1 and Specification, page 7). The examiner recognizes that Gunlock does not teach this element of limiting port logins to those target devices that each respective host is *authorized* to access and whose unique addresses appear on an address table. (See Office Action, page 3). Blumenau does not cure this deficiency.

Blumenau states:

In computer systems implementing the Fibre Channel standard, such as the computer system shown in FIG. 7, each port of each device accessible via the Fibre Channel cloud 100 is assigned a unique and fixed identifier referred to as a world wide name (WWN) . . . A Fibre Channel Name Server accessible via the Fibre Channel cloud 100 maintains a directory that maps world wide names to their corresponding IDs. To communicate with a port, a device obtains the port's ID from the Name Server and uses the ID to perform a "port login". . .

(col. 16, lines 3-13) Blumenau does not teach or suggest that the unique hardware address table stores the unique hardware address of every target device that each respective host is *authorized* to access. There is no mention of the word "authorized" in the cited portion of Blumenau. It is clear from the referenced section of Blumenau that the Name Server is simply a directory that contains a mapping from world wide names to IDs. Each port of each device accessible via the

Fibre Channel cloud has a world wide name, and thus, the Name Server can provide the corresponding ID for any target device port's world wide name to a device seeking to communicate with the port. Blumenau simply does not teach or suggest that each host is *authorized* to communicate with only selected target devices, and *only* those devices' unique hardware names will appear for a given host in the centralized table. Therefore, Blumenau fails to disclose that which Gunlock lacks and therefore, claim 1 is patentable over the prior art. Applicants respectfully submit that the rejection of claim 1 should be withdrawn.

4. Independent claims 9 and 16

The examiner has rejected claims 9 and 16 of the present application as being obvious over the combination of Gunlock, Blumenau, and Blumenau et al. The combination of references, however, does not disclose a method in which a host bus adapter determines whether it is authorized to perform a port login with respect to a target device.

Amended claim 9 requires, in part, the step of:

determining whether the unique hardware address of an available target device is present on a centralized unique hardware address table stored in a memory location separate from and accessible by the host bus adapter, wherein the unique hardware address table contains the unique hardware addresses of each target device that the host is authorized to access. . .

For the reasons set out above regarding independent claim 1, it is clear the combination of Gunlock and Blumenau does not disclose a unique hardware address table containing the unique hardware address of each target device that the host is *authorized* to access. Blumenau et al does not overcome this deficiency. Blumenau et al, like Blumenau and Gunlock, is completely silent as to this limitation. This requirement of claim 9 is not taught by the combination of Gunlock, Blumenau, and Blumenau et al, and thus, claim 9 is patentable over the combination. Applicants respectfully request that the rejection of claim 9 be withdrawn.

Amended claim 16 requires, in part, the steps of:

selecting target devices that may be accessed by the host from the identification of available target devices; and

storing the unique hardware address of the selected target devices to a centralized unique hardware address access table, wherein the host bus adapter will not perform a port login with a target device unless the unique hardware address of the target device is present on the unique hardware address table.

The examiner refers to Gunlock for the step of storing the unique hardware address of the selected target device to the table. None of the cited portions of Gunlock teach or suggest the act of storing a unique hardware address to a table. Additionally, for the reasons set out above regarding claim 1, it is clear that a centralized unique hardware address access table is not disclosed by Gunlock.

Additionally, the examiner does not provide any discussion as to how the combination of Gunlock, Blumenau, and Blumenau et al could show the step of *selecting* target devices that may be accessed by the host. Gunlock, Blumenau, and Blumenau et al. do not teach or suggest selecting target devices that the host will be *authorized* to access. As stated above, the combination of these references (and each reference alone) is silent as to the element of *authorizing* access to certain target devices for a certain host, and the references are equally silent regarding *selecting* target devices for this authorization. For these reasons, claim 16 is patentable, and Applicants respectfully request that the rejection of this claim be withdrawn.

5. Independent claim 29

The examiner has rejected claim 29 (computer system) as being obvious over the combination of Gunlock and Blumenau. Neither Gunlock nor Blumenau discloses each of the elements of amended independent claim 29. In particular, the examiner recognizes that Gunlock does not teach the element of limiting port logins to those target devices that each respective host

is *authorized* to access and whose unique addresses appear on an address table. (See Office Action, page 3). Blumenau does not cure this deficiency.

Amended independent claim 29 recites “a centralized unique hardware address access table in memory separate from and accessible by the host bus adapter, operable to contain one or more unique hardware addresses corresponding to one or more target devices with which the host bus adapter is authorized to attempt to perform a port login.” For the reasons set out above regarding claim 1, the combination of Gunlock and Blumenau simply does not disclose this required element of claim 29.

The host of Blumenau is free to issue port login commands without any reference to whether the host is authorized to issue port login commands to the particular target device. Therefore, the cited references do not suggest or disclose a computer system having a memory for storing a centralized hardware address table that includes a listing of target devices with which the host bus adapter is authorized to attempt to perform a port login. Applicants respectfully submit that the rejection of claim 29 should be withdrawn.

6. Claims 2-5, 7, 8, 10-13, 15, 17-20, 22, and 30-33

Dependent claims 2-5, 7, 8, 10-13, 15, 17-20, 22, and 30-33 will not be discussed individually herein, as each of these claims depends, either directly or indirectly, from an otherwise allowable base claim. Applicants submit that the rejection of claims 2-5, 7, 8, 10-13, 15, 17-20, 22, and 30-33 should be withdrawn.

Conclusion

Applicants respectfully submit that pending claims 1-5, 7-13, 15-20, 22, and 29-33 of the present invention are allowable. Applicants respectfully request that the rejection of these claims be withdrawn and that these claims be passed to issuance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. Fulghum', is written over a horizontal line.

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Baker Botts Docket Number: 016295.0635

Date: May 10, 2006